CPC COOPERATIVE PATENT CLASSIFICATION

B02C CRUSHING, PULVERISING, OR DISINTEGRATING IN GENERAL MILLING GRAIN ({ clod-crushers for soil-working machines A01B 17/00C; household tools and machines for pulverising foodstuffs, e.g. coffee and spice mills A47J 42/00; pharmaceutical mortars A61J 3/02; mechanical processing of refuse and garbage B03B 9/06; dressing mould materials by grinding B22C 5/04 }; obtaining metallic powder by crushing, grinding or milling B22F 9/04; { recovery of plastics by desintegration B29B 17/00; crushing raw materials in starch making C08B 30/02; shredding devices for sugar beet and sugar cane C13C 1/00; beaters for papermaking D21D 1/02; crushing devices specially for transport in mines E21F 13/002; slag crushing devices F23J 1/00; fuel milling devices in combustion apparatus F23K 1/00; household devices for crushing coal F24B 15/02; ice desintegrating devices F25C 5/02 }) **C2011.10**

Guide heading:

B02C 1/00 Crushing or disintegrating by reciprocating members

B02C 1/005 . {hydraulically or pneumatically operated }

B02C 1/02 . Jaw crushers or pulverisers
B02C 1/025 . . {Jaw clearance or overload control }
B02C 1/04 . . with single-acting jaws
B02C 1/043 . . . {with cooperating single acting jaws }
B02C 1/046 . . . {of the plural stage type }
B02C 1/06 . . with double-acting jaws
B02C 1/08 . . with jaws coacting with rotating roller
B02C 1/10 . . Shape or construction of jaws

B02C 1/12 . Mills with non-rotating spiked members

B02C 1/14 . Stamping mills

B02C 2/00 Crushing or disintegrating by gyratory or cone crushers { (with non-coaxial discs with intersecting axes B02C 7/005) }

B02C 2/005 . {Lining }

B02C 2/007 . {Feeding devices }

B02C 2/02 . eccentrically moved
B02C 2/04 . . with vertical axis
B02C 2/042 . . . {Moved by an eccentric weight }
B02C 2/045 . . . {and with bowl adjusting or controlling mechanisms (B02C 2/042, B02C 2/06 take precedence) }

B02C 2/047 . . . {and with head adjusting or controlling mechanisms (B02C 2/042, B02C 2/06 take precedence) }

B02C 2/06 . . . and with top bearing { (B02C 2/042 takes precedence) }

B02C 2/08 . . with horizontal axis

B02C 2/10 . concentrically moved
Bell crushers

B02C 4/00 **Crushing or disintegrating by roller mills** (with milling members in the form of rollers or balls co-operating with rings or discs B02C 15/00; roller mills or roll refiners exclusively for chocolate A23G 1/10, A23G 1/12)

B02C 4/02 . with two or more rollers

B02C 4/04 . . specially adapted for milling paste-like material, e.g. paint, chocolate, colloids

B02C 4/06 . . specially adapted for milling grain

B02C 4/08 . . with co-operating corrugated or toothed crushing-rollers

B02C 4/10 . with a roller co-operating with a stationary member

B02C 4/12 . . in the form of a plate

B02C 4/14 . . . specially adapted for milling paste-like material, e.g. paint, chocolate, colloids

B02C 4/16 . . . specially adapted for milling grain

B02C 4/18 . . in the form of a bar

B02C 4/20 . . . wherein the roller is corrugated or toothed

B02C 4/22 . . . specially adapted for milling paste-like material, e.g. paint, chocolate, colloids

B02C 4/24 . . . specially adapted for milling grain

B02C 4/26 . . in the form of a grid or grating

B02C 4/28 . Details

B02C 4/283 . . {Lateral sealing shields }

B02C 4/286 . . {Feeding devices }

B02C 4/30 . . Shape or construction of rollers

B02C 4/305 . . . {Wear resistant rollers }

B02C 4/32 . . Adjusting, applying pressure to, or controlling the distance between, milling members

B02C 4/34 . . . in mills wherein a roller co-operates with a stationary member

B02C 4/36 . . . in mills specially adapted for paste-like materials

B02C 4/38 . . . in grain mills

B02C 4/40 . . Detachers, e.g. scrapers

B02C 4/42 . . Driving mechanisms
Roller speed control

B02C 4/423 . . . {with vibrating or oscillating mechanisms }

B02C 4/426 . . . {Torque counterbalancing mechanisms }

B02C 4/44 . . Cooling or heating rollers or bars

B02C 7/00 **Crushing or disintegrating by disc mills** (apparatus specially adapted for manufacture

or treatment of cocoa or cocoa products exclusively A23G 1/04)

B02C 7/005 . {Crushers with non-coaxial toothed discs with intersecting axes }

B02C 7/02 . with coaxial discs
B02C 7/04 . . with concentric circles of intermeshing teeth
B02C 7/06 . . with horizontal axis (B02C 7/04 takes precedence)
B02C 7/08 . . with vertical axis (B02C 7/04 takes precedence)

B02C 7/10 . with eccentric discs

B02C 7/11 . Details
B02C 7/12 . . Shape or construction of discs
B02C 7/13 . . . for grain mills
B02C 7/14 . . Adjusting, applying pressure to, or controlling distance between, discs
B02C 7/16 . . Driving mechanisms
B02C 7/17 . . Cooling or heating of discs

B02C 7/175 . Disc mills specially adapted for paste-like material, e.g. paint, chocolate, colloids

B02C 7/18 . Disc mills specially adapted for grain
B02C 7/182 . . {with horizontal axis }
B02C 7/184 . . {with vertical axis }
B02C 7/186 . . {Adjusting, applying pressure to, or controlling distance between, discs }
B02C 7/188 . . {Driving mechanisms }

B02C 9/00 Other milling methods or mills specially adapted for grain

B02C 9/02 . Cutting or splitting grain

B02C 9/04 . Systems or sequences of operations
Plant

B02C 11/00 Other auxiliary devices or accessories specially adapted for grain mills

B02C 11/02 . Breaking up amassed particles, e.g. flakes

B02C 11/04 . Feeding devices

B02C 11/06 . Arrangements for preventing fire or explosion (methods for preventing or extinguishing fires, devices therefor A62C)

B02C 11/08 . Cooling, heating, ventilating, conditioning with respect to temperature or water content (conditioning grain before milling B02B 1/08; air-conditioning or ventilating in general F24F)

B02C 13/00 **Disintegrating by mills having rotary beater elements;** {Hammer mills }

B02C 13/02 . with horizontal rotor shaft (with axial flow B02C 13/10)
B02C 13/04 . . with beaters hinged to the rotor
Hammer mills
B02C 13/06 . . with beaters rigidly connected to the rotor
B02C 13/08 . . . and acting as a fan
B02C 13/09 . . . and throwing the material against an anvil or impact plate { (with vertical axis B02C 13/1807) }
B02C 13/095 . . . . {with an adjustable anvil or impact plate }

B02C 13/10 . with horizontal rotor shaft and axial flow
B02C 13/12 . . with vortex chamber

B02C 13/13 . with horizontal rotor shaft and combined with sifting devices, e.g. for making powdered fuel

B02C 13/14 . with vertical rotor shaft, e.g. combined with sifting devices
B02C 13/16 . . with beaters hinged to the rotor
B02C 13/18 . . with beaters rigidly connected to the rotor
B02C 13/1807 . . . {the material to be crushed being thrown against an anvil or impact plate (with horizontal axis B02C 13/09; centrifugal acceleration of material through radially extending channels B02C 19/0025; centrifugal acceleration of material by means of an open top rotor B02C 19/0031) }
B02C 13/1814 . . . . {by means of beater or impeller elements fixed on top of a disc type rotor }
B02C 13/1821 . . . . . {the beater or impeller elements being rotatably fixed around their own axis }
B02C 13/1828 . . . . . {with dead bed protected beater or impeller elements }
B02C 13/1835 . . . . {by means of beater or impeller elements fixed in between an upper and lower rotor disc }
B02C 13/1842 . . . . . {with dead bed protected beater or impeller elements }
B02C 13/185 . . . . {Construction or shape of anvil or impact plate }

B02C 13/20 . with two or more co-operating rotors
B02C 13/205 . . {arranged concentrically }

B02C 13/22 . with intermeshing pins; {Pin Disk Mills }
B02C 13/24 . . arranged around a vertical axis

B02C 13/26 . Details
B02C 13/28 . . Shape or construction of beater elements
B02C 13/2804 . . . {the beater elements being rigidly connected to the rotor }
B02C 13/282 . . Shape or inner surface of mill-housings
B02C 13/284 . . . Built-in screens
B02C 13/286 . . Feeding or discharge
B02C 13/288 . . Ventilating, or influencing air circulation

B02C 13/30 . . Driving mechanisms

B02C 13/31 . . Safety devices or measures

B02C 15/00 **Disintegrating by milling members in the form of rollers or balls co-operating with rings or discs** { (high-speed drum mills B02C 19/11) }

B02C 15/001 . {Air flow directing means positioned on the periphery of the horizontally rotating milling surface }

B02C 15/003 . {Shape or construction of discs or rings }

B02C 15/004 . {Shape or construction of rollers or balls }

B02C 15/005 . . {Rollers or balls of composite construction }

B02C 15/006 . {Ring or disc drive gear arrangement }

B02C 15/007 . {Mills with rollers pressed against a rotary horizontal disc (with pendularly mounted rollers B02C 15/04) }

B02C 15/02 . Centrifugal pendulum-type mills

B02C 15/04 . Mills with pressed pendularly-mounted rollers, e.g. spring pressed

B02C 15/045 . . {pressed against the interior of a ring rotating in a vertical plane }

B02C 15/06 . Mills with rollers forced against the interior of a rotary ring, e.g. under spring action (B02C 15/04 takes precedence)

B02C 15/08 . Mills with balls or rollers centrifugally forced against the inner surface of a ring, the balls or rollers of which are driven by a centrally arranged member (B02C 15/02 takes precedence)

B02C 15/10 . Mills with balls or rollers centrifugally forced against the inner surface of a ring, the balls or rollers of which are driven by other means than a centrally-arranged member

B02C 15/12 . Mills with at least two discs {or rings } and interposed balls or rollers mounted like ball or roller bearings

B02C 15/123 . . {with rings and interposed rollers }

B02C 15/14 . Edge runners, e.g. Chile mills

B02C 15/16 . with milling members essentially having different peripheral speeds and in the form of a hollow cylinder or cone and an internal roller or cone

B02C 17/00 **Disintegrating by tumbling mills, i.e. mills having a container charged with the material to be disintegrated with or without special disintegrating members such as pebbles or balls** (high-speed drum mills B02C 19/11; {drums for polishing or grinding B24B })

B02C 17/002 . {with rotary cutting or beating elements }

B02C 17/005 . {the charge being turned over by magnetic forces }

B02C 17/007 . {specially adapted for disintegrating refuse }

B02C 17/02 . with perforated container

B02C 17/04 . with unperforated container
B02C 17/06 . . with several compartments
B02C 17/07 . . . in radial arrangement
B02C 17/08 . . with containers performing a planetary movement

B02C 17/10 . with one or a few disintegrating members arranged in the container

B02C 17/14 . Mills in which the charge to be ground is turned over by movements of the container other than by rotating, e.g. by swinging, vibrating, tilting { (mills provided with vibrators in general B02C 19/16) }

B02C 17/16 . Mills in which a fixed container houses stirring means tumbling the charge
B02C 17/161 . . {Arrangements for separating milling media and ground material }
B02C 17/163 . . {Stirring means }
B02C 17/166 . . {of the annular gap type }
B02C 17/168 . . {with a basket media milling device arranged in or on the container, involving therein a circulatory flow of the material to be milled }

B02C 17/18 . Details
B02C 17/1805 . . {Monitoring devices for tumbling mills }
B02C 17/181 . . {Bearings specially adapted for tumbling mills }
B02C 17/1815 . . {Cooling or heating devices }
B02C 17/182 . . {Lids }
B02C 17/1825 . . {Lifting devices (lifting devices associated with the lining for containers B02C 17/22) }
B02C 17/183 . . {Feeding or discharging devices }
B02C 17/1835 . . . {Discharging devices combined with sorting or separating of material (B02C 17/186 takes precedence) }
B02C 17/184 . . . . {with separator arranged in discharge path of crushing zone }
B02C 17/1845 . . . . . {with return of oversize material to crushing zone }
B02C 17/185 . . . . {with more than one separator }
B02C 17/1855 . . . . {with separator defining termination of crushing zone, e.g. screen denying egress of oversize material }
B02C 17/186 . . . {Adding fluid, other than for crushing by fluid energy }
B02C 17/1865 . . . . {after crushing }
B02C 17/187 . . . . . {with recirculation of material to crushing zone }
B02C 17/1875 . . . . {passing gas through crushing zone }
B02C 17/188 . . . . . {characterised by point of gas entry or exit or by gas flow path }
B02C 17/1885 . . . . . {the applied gas acting to effect material separation (B02C 17/1895 takes precedence) }
B02C 17/189 . . . . . {with return of oversize material to crushing zone (B02C 17/1895 takes precedence) }

B02C 17/1895 . . . . . {gas being recirculated to crushing zone }
B02C 17/20 . . Disintegrating members
B02C 17/205 . . . {Adding disintegrating members to the tumbling mill }
B02C 17/22 . . Lining for containers
B02C 17/225 . . . {using rubber or elastomeric material }
B02C 17/24 . . Driving mechanisms

B02C 18/00 **Disintegrating by knives or other cutting or tearing members which chop material into fragments** { (tree stump comminutors A01G 23/067) }

B02C 18/0007 . {specially adapted for disintegrating documents }

B02C 18/0076 . {with cutting or tearing members fixed on endless flexible members (without cutting or tearing members B02C 19/0006) }

B02C 18/0084 . {specially adapted for disintegrating garbage, waste or sewage }
B02C 18/0092 . . {for waste water or for garbage }

B02C 18/02 . with reciprocating knives
B02C 18/04 . . Details

B02C 18/06 . with rotating knives
B02C 18/062 . . {with rotor elements extending axially in close radial proximity of a concentrically arranged slotted or perforated ring }
B02C 18/065 . . {within rotatable bowls, e.g. meat cutters }
B02C 18/067 . . {Tub-grinders }
B02C 18/08 . . within vertical containers { (B02C 18/062, B02C 18/065 take precedence) }
B02C 18/083 . . . {with a disc rotor having generally radially extending slots or openings bordered with cutting knives }
B02C 18/086 . . . {specially adapted for disintegrating plastics, e.g. cinematographic films (for plastic bottles B02C 19/0093, disintegrating plastics B29B 17/00) }
B02C 18/10 . . . with drive arranged above container { (B02C 18/083 takes precedence) }
B02C 18/12 . . . with drive arranged below container { (B02C 18/083 takes precedence) }
B02C 18/14 . . within horizontal containers { (B02C 18/062, B02C 18/065 take precedence) }
B02C 18/141 . . . {with axial flow }
B02C 18/142 . . . {with two or more inter-engaging rotatable cutter assemblies }
B02C 18/143 . . . {with a disc rotor having generally radially extending slots or openings bordered with cutting knives }
B02C 18/144 . . . {with axially elongated knives }
B02C 18/145 . . . {with knives spaced axially and circumferentially on the periphery of a cylindrical rotor unit }
B02C 18/146 . . . {with a rotor comprising a plurality of axially contiguous disc-like segments each having at least one radially extending cutting element }
B02C 18/148 . . . {specially adapted for disintegrating plastics, e.g. cinematographic films (for plastic bottles B02C 19/0093, disintegrating plastics B29B 17/00) }
B02C 18/16 . . Details

B02C 18/18 . . . Knives
Mountings thereof
B02C 18/182 . . . . {Disc-shaped knives }
B02C 18/184 . . . . . {with peripherally arranged demountable cutting tips or elements }
B02C 18/186 . . . . {Axially elongated knives }
B02C 18/20 . . . . Sickle-shaped knives
B02C 18/22 . . . Feed or discharge means
B02C 18/2216 . . . . {Discharge means }
B02C 18/2225 . . . . {Feed means }
B02C 18/2233 . . . . . {of ram or pusher type }
B02C 18/2241 . . . . . {of conveyor belt type (B02C 18/225 takes precedence) }
B02C 18/225 . . . . . {of conveyor belt and cooperating roller type }
B02C 18/2258 . . . . . {of screw type }
B02C 18/2266 . . . . . {of revolving drum type }
B02C 18/2275 . . . . . {using a rotating arm }
B02C 18/2283 . . . . . {using rollers (B02C 18/225 takes precedence) }
B02C 18/2291 . . . . . {Feed chute arrangements }
B02C 18/24 . . . Drives

B02C 18/26 . with knives which both reciprocate and rotate

B02C 18/28 . with spiked cylinders

B02C 18/30 . Mincing machines with perforated discs and feeding worms
B02C 18/301 . . {with horizontal axis }
B02C 18/302 . . . {with a knife-perforated disc unit }
B02C 18/304 . . . {with several axially aligned knife-perforated disc units }
B02C 18/305 . . {Details }
B02C 18/32 . . with sharpening devices
B02C 18/34 . . with means for cleaning the perforated discs
B02C 18/36 . . Knives or perforated discs
B02C 18/362 . . . {Knives }
B02C 18/365 . . . {Perforated discs }
B02C 18/38 . . Drives

B02C 19/00 **Other disintegrating devices or methods** (for grain B02C 9/00)

B02C 19/0006 . {Crushing by endless flexible members (with cutting or tearing members B02C 18/0076) }

B02C 19/0012 . {Devices for disintegrating materials by collision of these materials against a breaking surface or breaking body and/or by friction between the material particles (also for grain) }
B02C 19/0018 . . {using a rotor accelerating the materials centrifugally against a circumferential breaking surface (rotors with beater elements B02C 13/09, B02C 13/1807) }

B02C 19/0025 . . . {by means of a rotor with radially extending channels }

B02C 19/0031 . . . {by means of an open top rotor }

B02C 19/0037 . . . . {with concentrically arranged open top rotors }

B02C 19/0043 . . {the materials to be pulverised being projected against a breaking surface or breaking body by a pressurised fluid (jet mills B02C 19/06) }

B02C 19/005 . . {the materials to be pulverised being disintegrated by collision of, or friction between, the material particles (jet mills B02C 19/06) }

B02C 19/0056 . {specially adapted for specific materials not otherwise provided for }

B02C 19/0062 . . {specially adapted for shredding scrap metal, e.g. automobile bodies }

B02C 19/0068 . . {specially adapted for breaking-up fluorescent tubes }

B02C 19/0075 . . {specially adapted for desintegrating medical waste (disposal of medical waste B09B 3/0075, sterilisation of refuse A61L 11/00) }

B02C 19/0081 . . {specially adapted for breaking-up bottles }

B02C 19/0087 . . . {for glass bottles }

B02C 19/0093 . . . {for plastic bottles }

B02C 19/06 . Jet mills

B02C 19/061 . . {of the cylindrical type (B02C 19/068 takes precedence) }

B02C 19/063 . . {of the toroidal type (B02C 19/068 takes precedence) }

B02C 19/065 . . {of the opposed-jet type (B02C 19/068 takes precedence) }

B02C 19/066 . . {of the jet-anvil type (B02C 19/068 takes precedence) }

B02C 19/068 . . {of the fluidised-bed type }

B02C 19/08 . Pestle and mortar

B02C 19/10 . Mills in which a friction block is towed along the surface of a cylindrical or annular member

B02C 19/11 . High-speed drum mills (for separating B04B)

B02C 19/16 . Mills provided with vibrators ({roller mills B02C 4/423 }; tumbling mills B02C 17/14)

B02C 19/18 . Use of auxiliary physical effects, e.g. ultrasonics, irradiation, for disintegrating

B02C 19/186 . . {Use of cold or heat for disintegrating (B02C 4/44, B02C 7/17, B02C 11/08 take precedence) }

B02C 19/20 . Disintegrating by grating { (domestic food grating devices A47J 43/25) }

B02C 19/22 . Crushing mills with screw-shaped crushing means

B02C 21/00 **Disintegrating plant with or without drying of the material** (for grain B02C 9/04; {combined with devices for sorting the material, provisionally B02C 23/00B })

B02C 21/002 . {using a combination of a roller mill and a drum mill }

B02C 21/005 . . {the roller mill having cooperating rollers }

B02C 21/007 . {using a combination of two or more drum or tube mills }

B02C 21/02 . Transportable disintegrating plant

B02C 21/026 . . {self-propelled }

B02C 23/00 **Auxiliary methods or auxiliary devices or accessories specially adapted for crushing or disintegrating not provided for in preceding groups or not specially adapted to apparatus covered by a single preceding group** ({specially adapted for grain mills B02C 11/00; } separating or sorting in general B03 , B04 , B07)

B02C 23/02 . Feeding devices ({for grain mills 11/04; for roller mills B02C 4/286 }; transport devices in general B65G)

B02C 23/04 . Safety devices (in general F16P ; {for rotary mills B02C 13/31 })

B02C 23/06 . Selection or use of additives to aid disintegrating

B02C 23/08 . Separating or sorting of material, associated with crushing or disintegrating (B02C 23/18 takes precedence; {beater mills combined with sifting devices B02C 13/13, B02C 13/14; for tumbling mills B02C 17/1835 })

B02C 23/10 . . with separator arranged in discharge path of crushing or disintegrating zone

B02C 23/12 . . . with return of oversize material to crushing or disintegrating zone

B02C 23/14 . . with more than one separator

B02C 23/16 . . with separator defining termination of crushing or disintegrating zone, e.g. screen denying egress of oversize material

B02C 23/18 . Adding fluid, other than for crushing or disintegrating by fluid energy ({for tumbling mills B02C 17/186; } feeding devices B02C 23/02)

B02C 23/20 . . after crushing or disintegrating

B02C 23/22 . . . with recirculation of material to crushing or disintegrating zone

B02C 23/24 . . Passing gas through crushing or disintegrating zone ({B02C 15/001 }, B02C 23/38, B02C 23/40 take precedence)

B02C 23/26 . . . characterised by point of gas entry or exit or by gas flow path

B02C 23/28 . . . gas moving means being integral with, or attached to, crushing or disintegrating element

B02C 23/30 . . . the applied gas acting to effect material separation (B02C 23/34 takes precedence)

B02C 23/32 . . . with return of oversize material to crushing or disintegrating zone (B02C 23/34 takes precedence)

B02C 23/34 . . . gas being recirculated to crushing or disintegrating zone

B02C 23/36 . . the crushing or disintegrating zone being submerged in liquid

B02C 23/38 . . in apparatus having multiple crushing or disintegrating zones

B02C 23/40 . . with more than one means for adding fluid to the material being crushed or disintegrated

B02C 25/00 **Control arrangements specially adapted for crushing or disintegrating**

Guide heading:

B02C 2002/00 **Crushing or disintegrating by gyratory or cone crushers** { (with non-coaxial discs with intersecting axes B02C 7/005) }

B02C 2002/002 . the bowl being a driven element for providing a crushing effect

B02C 2013/00 **Disintegrating by mills having rotary beater elements;** {Hammer mills }

B02C 2013/14 . with vertical rotor shaft, e.g. combined with sifting devices
B02C 2013/145 . . with fast rotating vanes generating vortexes effecting material on material impact
B02C 2013/18 . . with beaters rigidly connected to the rotor
B02C 2013/1807 . . . {the material to be crushed being thrown against an anvil or impact plate (with horizontal axis B02C 13/09; centrifugal acceleration of material through radially extending channels B02C 19/0025; centrifugal acceleration of material by means of an open top rotor B02C 19/0031) }
B02C 2013/1857 . . . . rotating coaxially around the rotor shaft
B02C 2013/1864 . . . . rotatable around its own axis
B02C 2013/1871 . . . . vertically adjustable
B02C 2013/1878 . . . . radially adjustable
B02C 2013/1885 . . . . of dead bed type
B02C 2013/1892 . . . . cooled or heated

B02C 2013/26 . Details
B02C 2013/28 . . Shape or construction of beater elements
B02C 2013/2808 . . . the beater elements are attached to disks mounted on a shaft
B02C 2013/2812 . . . the beater elements are attached to a hollow cylindrical rotor
B02C 2013/2816 . . . of chain, rope or cable type
B02C 2013/282 . . Shape or inner surface of mill-housings
B02C 2013/2825 . . . with fastening means for fixing lining members to the inner surface of mill-housings
B02C 2013/286 . . Feeding or discharge
B02C 2013/28609 . . . Discharge means
B02C 2013/28618 . . . Feeding means
B02C 2013/28627 . . . . of ram or pusher type
B02C 2013/28636 . . . . of conveyor belt type
B02C 2013/28645 . . . . of conveyor belt and cooperating roller type
B02C 2013/28654 . . . . of screw type
B02C 2013/28663 . . . . using rollers
B02C 2013/28672 . . . . Feed chute arrangements
B02C 2013/28681 . . . . Feed distributor plate for vertical mill
B02C 2013/2869 . . . Arrangements of feed and discharge means in relation to each other
B02C 2013/29 . . devices for manipulating beater elements

B02C 2015/00 **Disintegrating by milling members in the form of rollers or balls co-operating with**

rings or discs { (high-speed drum mills B02C 19/11) }

B02C 2015/002 . combined with a classifier

B02C 2015/008 . Roller drive arrangements

B02C 2015/12 . Mills with at least two discs {or rings } and interposed balls or rollers mounted like ball or roller bearings

B02C 2015/126 . . of the plural stage type

B02C 2015/14 . Edge runners, e.g. Chile mills

B02C 2015/143 . . each runner pivot carrying more than one runner

B02C 2015/146 . . Step-shaped runners

B02C 2017/00 **Disintegrating by tumbling mills, i.e. mills having a container charged with the material to be disintegrated with or without special disintegrating members such as pebbles or balls** (high-speed drum mills B02C 19/11; {drums for polishing or grinding B24B })

B02C 2017/04 . with unperforated container

B02C 2017/06 . . with several compartments

B02C 2017/065 . . . with several compartments in the form of multiwell blocks

B02C 2017/16 . Mills in which a fixed container houses stirring means tumbling the charge

B02C 2017/165 . . with stirring means comprising more than one agitator

B02C 2018/00 **Disintegrating by knives or other cutting or tearing members which chop material into fragments** { (tree stump comminutors A01G 23/067) }

B02C 2018/0007 . {specially adapted for disintegrating documents }

B02C 2018/0015 . . for disintegrating CDs, DVDs and/or credit cards

B02C 2018/0023 . . Switching devices

B02C 2018/003 . . Removing clips, pins or staples before disintegrating

B02C 2018/0038 . . Motor drives

B02C 2018/0046 . . Shape or construction of frames, housings or casings

B02C 2018/0053 . . hand-operated

B02C 2018/0061 . . with compacting devices for the disintegrated material

B02C 2018/0069 . . with stripping devices

B02C 2018/06 . with rotating knives

B02C 2018/14 . . within horizontal containers { (B02C 18/062, B02C 18/065 take precedence) }

B02C 2018/147 . . . of the plural stage type

B02C 2018/16 . . Details

B02C 2018/162 . . . Shape or inner surface of shredder-housings

B02C 2018/164 . . . Prevention of jamming and/or overload

B02C 2018/166 . . . Lubricating the knives of the cutting mechanisms

B02C 2018/168 . . . User safety devices or measures in shredders

B02C 2018/18 . . . Knives
Mountings thereof

B02C 2018/188 . . . . Stationary counter-knives
Mountings thereof

B02C 2018/22 . . . Feed or discharge means

B02C 2018/2208 . . . . for weblike material

B02C 2018/30 . Mincing machines with perforated discs and feeding worms

B02C 2018/305 . . {Details }

B02C 2018/307 . . . Cooling arrangements in mincing machines

B02C 2018/308 . . with separating devices for hard material, e.g. bone

B02C 2018/36 . . Knives or perforated discs

B02C 2018/367 . . . Resiliently mounted knives or discs

B02C 2019/00 **Other disintegrating devices or methods** (for grain B02C 9/00)

B02C 2019/18 . Use of auxiliary physical effects, e.g. ultrasonics, irradiation, for disintegrating

B02C 2019/183 . . Crushing by discharge of high electrical energy

B02C 2021/00 **Disintegrating plant with or without drying of the material** (for grain B02C 9/04; {combined with devices for sorting the material, provisionally B02C 23/00B })

B02C 2021/02 . Transportable disintegrating plant

B02C 2021/023 . . for disintegrating material on the surface of the ground

B02C 2023/00 **Auxiliary methods or auxiliary devices or accessories specially adapted for crushing or disintegrating not provided for in preceding groups or not specially adapted to apparatus covered by a single preceding group** ({specially adapted for grain mills B02C 11/00; } separating or sorting in general B03 , B04 , B07)

B02C 2023/08 . Separating or sorting of material, associated with crushing or disintegrating (B02C 23/18 takes precedence; {beater mills combined with sifting devices B02C 13/13, B02C 13/14; for tumbling mills B02C 17/1835 })

B02C 2023/16 . . with separator defining termination of crushing or disintegrating zone, e.g. screen denying egress of oversize material

B02C 2023/165 . . . Screen denying egress of oversize material

Guide heading:

B02C 2201/00 **Codes relating to disintegrating devices adapted for specific materials**

B02C 2201/02 . for reinforced concrete

B02C 2201/04 . for used tyres

B02C 2201/06 . for garbage, waste or sewage
B02C 2201/063 . . for waste water or sewage
B02C 2201/066 . . for garden waste

Guide heading:

B02C 2210/00 Codes relating to different types of disintegrating devices

B02C 2210/01 . Indication of wear on beaters, knives, rollers, anvils, linings and the like

B02C 2210/02 . Features for generally used wear parts on beaters, knives, rollers, anvils, linings and the like